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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,901	10/01/2003	Bradley L. Grunden	1152-014A	8077

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NEW YORK, NY 10036

EXAMINER
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MATZEK, MATTHEW D

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 12/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/676,901

Applicant(s)

GRUNDEN ET AL.

Examiner

Matthew D. Matzek

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 20-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)     | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____  | 6) <input type="checkbox"/> Other: _____                                    |

*Response to Amendment*

1. Applicant's election with traverse of Claims 1-19 in the reply filed on 9/22/2005 is acknowledged. The traversal is on the ground(s) that Claim 20 encompasses the method suggested by Examiner and as such does not set forth a materially different process by which to make the article of Group 1. Examiner agrees with this assertion. However, the method recited in claim 20 may be used to make a number of materially different articles including static dissipative mats for laboratories and charge dissipative coatings for airliners and buildings. Claims 1-22 are currently active, but claims 19-22 have been withdrawn from examination. The amended claims contain no new matter.

The requirement is still deemed proper and is therefore made FINAL.

2. The Affidavit filed on 9/22/2005 under 37 CFR 1.131 has been considered but is ineffective to overcome the applied references. The affidavit must be signed by be executed and signed by the inventor(s) or at least the subject matter of the claim(s) under rejection unless unavailable, in which case an other party of interest must sign (e.g., the 37 C.F.R. § 1.47 applicant, legal representative or assignee where appropriate). Kenneth J. Heater has been designated as a representative of the assignee of the instant application, however no evidence has yet to be provided as to why the inventor(s) are unavailable to sign the affidavit.

3. The previously applied rejection of claims 2, 8 and 11 under 35 USC § 112, second paragraph, have been withdrawn due to amendment.

4. The rejection of claims 1-8 and 17 under 35 U.S.C. 102 (b) as anticipated by or, in the alternative, under 35 U.S.C. 103 (a) as obvious over Nakajima et al. (US 6,261,995) has been withdrawn as it teaches a point-to-point resistance range that exceeds the instantly claimed range.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 4 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 4 and 5 are rejected as it discloses limitations upon a pretreatment for the laminate, but does not disclose how this treatment or its limitations impact the final laminate structure to be instantly claimed. Applicant's limitations should be directed to the article of the instant claims not steps leading up to its creation (i.e. the claims should recite the amount/type of polymer added to the laminate, not the concentration of the colloidal dispersion used to treat the laminate).

***Claim Rejections - 35 USC § 102***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1-7, and 13-15 are rejected under 35 U.S.C. 102(b) as anticipated by Majumdar et al. (US 6,025,119).

Majumdar et al. disclose an imaging element, which includes a support, an image-forming layer superposed on the support, and an electrically conductive layer superposed on the support (Abstract). The support layer of the applied article may comprise a wide variety of materials including paper (col. 6, lines 63-67). The protective overcoat layer, which is transparent, includes polyurethane (thermoset) binder (col. 3, lines 66-67). The transparency of the protective coating is necessitated by its use as a protective coating for an imaging element.

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The electrically conductive layer may be formed with conductive polymers such as polypyrrole, polyaniline, thiophene (polyethylene dioxythiophene polystyrene sulfonated), and polyisothianaphthene (col. 10, lines 23-36, col. 12, lines 31-36). It is preferred that the conductive polymers are dispersed in aqueous systems (col. 10, lines 35-37). The antistatic layer more preferably possesses an electrical resistivity of less than 10 log ohms/square ( $<10^{10}$  ohms) (col. 6, lines 25-30). This limitation anticipates the instantly claimed point-to-point resistance range.

***Claim Rejections - 35 USC § 102/103***

7. Claims 1-5, 13, 15, 16, and 19 are rejected under 35 U.S.C. 102(e) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yeager et al. (PG Pub 2001/0053820).

a. Yeager et al. disclose a thermosetting composition, which after curing exhibits dielectric properties. The composition may comprise fibrous products such as cellulose fabrics (Kraft paper, cotton paper, and glass fiber containing paper) [0076]. The composition may further comprise conductive agents such as tin oxide, antimony oxide, and carbon nanofibers [0061, 62, and 78]. Polymeric fillers may also be incorporated into the applied article including polyurethanes and electrically conductive polymers, polypyrrole and polyaniline [0083 and 84].

b. The polymeric fillers may be used in amounts of about 0.005 to about 200 parts per 100 parts total of the capped poly(arylene ether) or 0.005 to about 67% of the thermosetting composition ([0085], calculations performed by Examiner).

c. Although Yeager et al. do not explicitly teach the claimed feature of possessing a point-to-point resistance in the range of  $10^6$  to  $10^9$  ohms when tested in accordance with ESD S4.1, it is reasonable to presume that said property is inherent to Yeager et al.

Support for said presumption is found in the use of like materials (i.e. a laminate comprising a cellulosic substrate with conductive agents and a thermosetting polymer). The burden is upon Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed property of possessing a point-to-point resistance in the range of  $10^6$  to  $10^9$  ohms when tested in accordance with ESD S4.1 would obviously have been present one the Yeager et al. product is provided. Note *In re Best*, 195 USPQ at 433, footnote (CCPA 1977) as to the providing of this rejection made above under 35 USC 102.

8. Claims 1, 2, 3, 5, 12 and 17 are rejected under 35 U.S.C. 102(b) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Dzenis et al. (US 6,265,333).

a. Dzenis et al. disclose a fiber reinforced composite material comprising a resin matrix and reinforcing fibers (Abstract). The applied invention may be made of epoxy or melamine-formaldehyde resins (col. 5, lines 61-67). Submicron or nanoscale carbon fibers may be used in the applied invention (col. 8, lines 40-57). Cellulosic fibers may also be incorporated into the composite of Dzenis et al. for reinforcement and may be in the form of a thin fiber mat (col. 8, lines 11-17 and col. 7, lines 32-34). The fibers included in the applied invention provide interlaminar toughness, strength, and delamination resistance (Abstract).

b. Although Dzenis et al. do not explicitly teach the claimed feature of possessing a point-to-point resistance in the range of  $10^6$  to  $10^9$  ohms when tested in accordance with ESD S4.1, it is reasonable to presume that said property is inherent to Dzenis et al. Support for said presumption is found in the use of like materials (i.e. a laminate

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comprising a cellulosic substrate with nanometric conductive agents and a thermosetting polymer). The burden is upon Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed property of possessing a point-to-point resistance in the range of  $10^6$  to  $10^9$  ohms when tested in accordance with ESD S4.1 would obviously have been present one the Dzenis et al. product is provided. Note *In re Best*, 195 USPQ at 433, footnote (CCPA 1977) as to the providing of this rejection made above under 35 USC 102.

9. Claims 1-3, 9-11, and 17 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Follensbee et al. (US 6,239,049).

a. Follensbee et al. disclose a backing substrate for use in coated abrasives (Abstract). The backings of the invention may be comprised of paper and nonwoven materials including coated multilayer combinations thereof (col. 8, lines 48-54). Nonwoven backings include scrims (col. 9, lines 19-31). Paper backings may be barrier coated or backsized with thermoset polymers (claim 15). Antistatic additives such as carbon black and graphite may be included in the applied invention (col. 8, lines 43-46).

b. Although Follensbee et al. et al. do not explicitly teach the claimed feature of possessing a point-to-point resistance in the range of  $10^6$  to  $10^9$  ohms when tested in accordance with ESD S4.1, it is reasonable to presume that said property is inherent to Follensbee et al. Support for said presumption is found in the use of like materials (i.e. a laminate comprising a cellulosic substrate with nanometric conductive agents ([i.e. carbon black and graphite] and a thermosetting polymer). The burden is upon Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed

property of possessing a point-to-point resistance in the range of  $10^6$  to  $10^9$  ohms when tested in accordance with ESD S4.1 would obviously have been present one the Follensbee et al. product is provided. Note *In re Best*, 195 USPQ at 433, footnote (CCPA 1977) as to the providing of this rejection made above under 35 USC 102.

***Claim Rejections - 35 USC § 103***

10. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dzenis et al. The invention of Dzenis et al. is silent as to the percentage of the nanoscale carbon fibers to be used in the disclosed invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to make a laminate comprising nanophase materials in an amount between less than 1% and approximately 25 % by weight of the thermosetting polymer resin, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range involves only routine skill in the art. *In re Aller*, 105 USPQ 233. The nanofibers would be use to provide laminate interference reinforcement without substantial reduction of in-plane properties and/or without substantial increase in weight and/or ply thickness.

11. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Majumdar et al. (US 6,025,119) as applied to claim 7 above, and further in view of Nakajima et al. (US 6,261,995). The invention of Majumdar et al. is silent as to the use of cellulosic Kraft paper for the cellulose-based sheet saturated with a thermosetting polymer resin.

a. Nakajima et al. disclose an intermediate transfer material comprising a support 1, back coat layer 2, cushion layer 3, light-heat converting layer 4, ink layer 5, releasing



layer 6 (col. 2, lines 30-40 and Figure 1). The support may be a coated paper laminate (col. 7, lines 39-45). To attain the surface specific resistance of the back coat layer in the fixed range of the applied invention an anti-static agent of fine particles of tin oxide may be used (col. 7, lines 59-64). The applied invention is silent as to the size of the “fine particles” but it is reasonable to presume that the tin oxide particles are of a nanoscale or it would have been obvious to one of ordinary skill in the art to have used nanoscale tin oxide particles. Particles of a larger diameter would have adversely affected the aesthetics of the final image for which the transfer material is designed. The binder of the back coat layer may be an epoxy resin or fluorinated polyurethane (col. 8, lines 26-37). The cushioning layer may be a phenol-formaldehyde resin (col. 9, lines 40-67).

b. Since Nakajima et al. and Majumdar et al. are from the same field of endeavor (i.e. static dissipative sheets), the purpose disclosed by Nakajima et al. would have been recognized in the pertinent art of Majumdar et al.

c. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have made the article of Majumdar et al. with the cellulosic Kraft paper of Nakajima et al. with the motivation to use an inexpensive and readily available substrate according to the “paper” teaching of Majumdar et al.

### *Response to Arguments*

12. Applicant's arguments filed 9/22/2005 have been fully considered but they are not persuasive.

13. Applicant argues that Examiner has misconstrued the disclosure of Dzenis et al. and the applied reference fails to teach the instantly claimed point-to-point resistance of the dissipative

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article. The motivation and use of the Dzenis et al. article may be different than that of Applicant, however the applied invention meets the instant limitations. Therefore, Dzenis et al. may be applied as prior art. The motivation of how one would arrive at the instantly claimed nanophase material layer is provided in Section 10 of this Office Action.

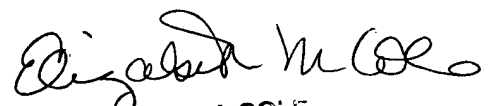
14. Applicant argues that Majumdar et al. do not teach the instantly claimed electrical resistivity. However, the antistatic layer more preferably possesses an electrical resistivity of less than  $10 \log \text{ ohms/square } (<10^{10} \text{ ohms})$  (col. 6, lines 25-30). This limitation anticipates the instantly claimed point-to-point resistance range.

15. Applicant argues that Follensbee et al. do not teach the instantly claimed point-to-point resistance range. Examiner agrees the instantly claimed range is not taught by Follensbee et al. however this new limitation is addressed in Section 9b of this Office Action.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

  
ELIZABETH M. COYLE  
PRIMARY EXAMINER

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew D. Matzek whose telephone number is (571) 272-2423. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mdm

*MDM*